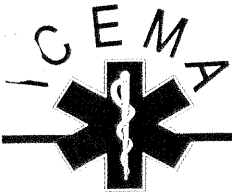


# INLAND COUNTIES EMERGENCY MEDICAL AGENCY

515 N Arrowhead Avenue  
San Bernardino CA 92415-0060  
(909) 388-5823 Fax (909) 388-5825



May 17, 2005

TO: Inyo, Mono and San Bernardino Counties EMCC Members  
Base Hospital ED Directors, Nurse Managers, PLNs  
Receiving Hospital ED Directors, Nurse Managers  
ALS Providers  
BLS Providers  
EMS Aircraft Providers  
EMS Training Institutions

FROM: Virginia Hastings, Executive Director  
Conrad Salinas, M.D., Medical Director

SUBJECT: ICEMA Quality Improvement Core Indicators – 30-day Comment Period

Enclosed are the Cardiac Core Indicators that are proposed to be included as part of the ICEMA Quality Improvement Plan, Appendix M.

**Pulseless V-Fib or V-Tach – Unwitnessed:**

CA1C AED Performed by EMS Personnel  
CA1E Prehospital Defibrillation: Frequency of Administration

**Pulseless V-Fib or V-Tach – Witnessed**

CA2C AED Performed by EMS Personnel  
CA2E Prehospital Defibrillation: Frequency of Administration  
CA2H Epinephrine: Frequency of Administration  
CA2J Lidocaine: Frequency of Administration

These indicators were developed utilizing the Quality Improvement Sample Indicators prepared by the State EMS Authority Vision Group D, system Evaluation and Improvement Group. The ICEMA QI Committee reviewed all cardiac indicators and recommended inclusion and changes. The indicators will be utilized by ICEMA and the QI Committee to evaluate the EMS system and make recommendations for improvement as indicated.

May 17, 2005

The following sample State indicators were omitted due to either inability to obtain the data or relevance in evaluating the EMS system. These indicators will be reviewed again in the future to determine usefulness in evaluating the system and ability to collect needed data.

**Pulseless V-Fib or V-Tach – Unwitnessed:**

- CA1A Bystander CPR
- CA1B Defibrillation Performed by Bystander
- CA1D Lapse of Time to First Shock 10 mins or less
- CA1F Prehospital Defibrillation: Number of Shocks Delivered per Patient
- CA1G Prehospital Defibrillation: Desired Effect Achieved
- CA1H Epinephrine: Frequency of Administration
- CA1I Epinephrine: Desired Effect Achieved
- CA1J Lidocaine: Frequency of Administration
- CA1K Lidocaine: Desired Effect Achieved
- CA1L Return of Spontaneous Circulation (ROSC)
- CA1M Admit to Emergency Department
- CA1N Survival to Hospital Discharge

**Pulseless V-Fib or V-Tach – Witnessed**

- CA2A CPR Performed by Bystander
- CA2B Defibrillation Performed by Bystander
- CA2D Lapse of Time to First Shock 10 mins or less
- CA2F Prehospital Defibrillation: Number of Shocks Delivered per Patient
- CA2G Prehospital Defibrillation: Desired Effect Achieved
- CA2I Epinephrine: Desired Effect Achieved
- CA2K Lidocaine: Desired Effect Achieved
- CA2L Return of Spontaneous Circulation (ROSC)
- CA2M Admit to Emergency Department
- CA2N Survival to Hospital Discharge

We would appreciate your taking this opportunity to review and comment on the proposed plan. **Written comments will be accepted until Wednesday, June 30 at 5:00 p.m.** Comments may also be sent via e-mail to [Vhastings@dph.sbcounty.gov](mailto:Vhastings@dph.sbcounty.gov).

VH/CS//DF/wp  
Enc.

<b>ICEMA CORE INDICATOR INDEX # CA1C</b>	<b>PULSELESS V-FIB or V-TACH - UNWITNESSED</b>	
<b>Measure</b>	<b>Automatic External Defibrillation (AED) Performed by EMS Personnel</b>	
<b>CORE INDICATOR REF #CA1</b>	<b>CARDIAC - ADULT TREATMENT PROTOCOL UTILIZATION</b>	
<b>Objective</b>	<input type="checkbox"/> to measure % of patients who receive defibrillation by automatic or semi-automatic external defibrillator and performed by on-duty EMS personnel	
<b>Classification</b>	<input type="checkbox"/> medical care - clinical	
<b>Type of Measure</b>	<input type="checkbox"/> Process	
<b>Domain of Performance</b>	<input type="checkbox"/> Patient Care	
<b>Indicator Reporting Value</b>	<input type="checkbox"/> %	
<b>Display Format</b>	<input type="checkbox"/> List <input type="checkbox"/> Cube Chart <input type="checkbox"/> Bar Chart <input type="checkbox"/> Line Graph <input type="checkbox"/> Process Control Chart	
<b>Frequency of Display</b>	<input type="checkbox"/> Monthly x 12	
<b>Measures of Central Tendency</b>	<input type="checkbox"/> mean - Yes <input type="checkbox"/> mode - No <input type="checkbox"/> variance - No <input type="checkbox"/> standard deviation - Yes	
<b>Trending Analysis</b>	<input type="checkbox"/> NA	
<b>Minimum Data Values</b>	<input type="checkbox"/> 30 values per measure	
<b>Sampling</b>	<input type="checkbox"/> Periodic - Rate	
<b>Aggregation</b>	<input type="checkbox"/> Yes	
<b>Blinded</b>	<input type="checkbox"/> Yes	
<b>Beta Testing</b>	<input type="checkbox"/> None to Date	
<b>Population Denominator (D)</b>	<input type="checkbox"/> the number of adult patients who suffer a pulseless VF or VT event unwitnessed by EMS personnel	
<b>Denominator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient has reached age 15 <input type="checkbox"/> patient 14 years or younger <input type="checkbox"/> patient has suffered a VF or VT event) <input type="checkbox"/> patient was pulseless (patient VF or VT <input type="checkbox"/> event was in prehospital setting <input type="checkbox"/> patient VF & VT event was not witnessed by EMS personnel <input type="checkbox"/> specified time period	<input type="checkbox"/> EMSA #36 <input type="checkbox"/> EMSA #54VTAC, 54VFIB <input type="checkbox"/> EMSA #54C-A <input type="checkbox"/> EMSA #54 <input type="checkbox"/> EMSA #52 <input type="checkbox"/> EMSA #11
<b>Denominator Data Source</b>	EMS Medical Records	

<b>Population Subset Numerator (N)</b>	<input type="checkbox"/> defibrillation by automatic or semi-automatic external defibrillator and performed by on-duty EMS personnel	
<b>Numerator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patients who survive to arrival at emergency department	<input type="checkbox"/> )
<b>Numerator Data Source</b>	<input type="checkbox"/> EMS Medical records <input type="checkbox"/>	
<b>Description of Indicator Formula</b>	<input type="checkbox"/> numerator value (N) divided by denominator value (D) multiplied by 100 equals percentage (%)	
<b>Indicator Formula Numeric Expression</b>	<input type="checkbox"/> $N / D = \%$	
<b>Linkage</b>	<b>Linkage Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> name <input type="checkbox"/> dob <input type="checkbox"/> age <input type="checkbox"/> gender <input type="checkbox"/> admit date <input type="checkbox"/> procedures	<input type="checkbox"/> EMSA #29 <input type="checkbox"/> EMSA #35 <input type="checkbox"/> EMSA #36 <input type="checkbox"/> EMSA #38 <input type="checkbox"/> EMSA # ? <input type="checkbox"/> EMSA #73
<b>Stratification</b>	<b>Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> by age <input type="checkbox"/> by gender <input type="checkbox"/> by incident type <input type="checkbox"/> by response times <input type="checkbox"/> by scene times <input type="checkbox"/> by provider level	<input type="checkbox"/> EMSA #36 <input type="checkbox"/> EMSA #38 <input type="checkbox"/> EMSA #8 <input type="checkbox"/> EMSA #17-20 <input type="checkbox"/> EMSA #8 <input type="checkbox"/> EMSA #73
<b>Indicator Exclusion Criteria</b>	<input type="checkbox"/> non-cardiac etiologies, <input type="checkbox"/> cardiac etiologies where resuscitation was not attempted by EMS personnel <input type="checkbox"/> use of manual defibrillator <input type="checkbox"/> defib performed by lay public or on-duty medical professional <input type="checkbox"/> event witnessed by EMS personnel <input type="checkbox"/> patient has not survived to hospital emergency department	
<b>References</b>	<input type="checkbox"/> Utstein Model; Pitt, Penn Kass LE. One Year Survival after Prehospital Cardiac Arrest: The Utstein Model applied to Rural-Suburban EMS System. Ann of Emerg Med; 12:17-20, 1994 <input type="checkbox"/> Wisconsin study; Olson DW, MD. EMT-Defibrillation: The Wisconsin Experience;. Ann of Emerg Med, 18:8;806, 1989 <input type="checkbox"/> Seattle Washington; Weaver DW, MD. Considerations for Improving Survival from Out of Hospital Cardiac Arrest. <input type="checkbox"/> Ann of Emerg Med 15:10;1181, 1986. Ontario, Canada; Brison RJ. Cardiac Arrest in Ontario; Can Med Assoc J; 191-199, 1992	
<b>Source</b>	<input type="checkbox"/> California EMSA Vision Project	

<b>ICEMA CORE INDICATOR</b> <b>Index # CA1E</b>	<b>PULSELESS V-FIB/TACH UNWITNESSED</b>	
<b>Measure</b>	<b>Prehospital Defibrillation: Frequency of Administration</b>	
<b>CORE INDICATOR REF #CA1</b>	<b>CARDIAC - ADULT TREATMENT PROTOCOL UTILIZATION</b>	
<b>Objective</b>	<input type="checkbox"/> to measure % of patients suffering a pulseless ventricular fibrillation (VF) or ventricular tachycardia (VT) event, which is, unwitnessed who receive one or more defibrillatory shocks in pre-hospital setting.	
<b>Classification</b>	<input type="checkbox"/> Medical care - clinical	
<b>Type of Measure</b>	<input type="checkbox"/> Process	
<b>Domain of Performance</b>	<input type="checkbox"/> Frequency, Compliance	
<b>Indicator Reporting Value</b>	<input type="checkbox"/> %	
<b>Display Format</b>	<input type="checkbox"/> List Chart <input type="checkbox"/> Cube Chart <input type="checkbox"/> Bar Chart <input type="checkbox"/> Line Graph <input type="checkbox"/> Process Control Chart	
<b>Frequency of Display</b>	<input type="checkbox"/> Monthly x 12	
<b>Measures of Central Tendency</b>	<input type="checkbox"/> mean - Yes <input type="checkbox"/> mode - No <input type="checkbox"/> variance - No <input type="checkbox"/> standard deviation - No	
<b>Trending Analysis</b>	<input type="checkbox"/> NA	
<b>Minimum Data Values</b>	<input type="checkbox"/> 30 values per measure	
<b>Sampling</b>	<input type="checkbox"/> Periodic - Rate	
<b>Aggregation</b>	<input type="checkbox"/> Yes	
<b>Blinded</b>	<input type="checkbox"/> Yes	
<b>Beta Testing</b>	<input type="checkbox"/> None to Date	
<b>Population Denominator (D)</b>	<input type="checkbox"/> the number of adult patients treated by EMS personnel for pulseless V-Fib/Tach unwitnessed	
<b>Denominator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient has reached age 15 <input type="checkbox"/> patient 14 years or younger <input type="checkbox"/> patient treated by EMS personnel for pulseless V-Fib/Tach. <input type="checkbox"/> Event is unwitnessed by EMS personnel <input type="checkbox"/> event was in prehospital setting <input type="checkbox"/> specified query time period	<input type="checkbox"/> EMSA #  <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #  <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Denominator Data Source</b>	<input type="checkbox"/> EMS Medical Records	
<b>Population Subset Numerator (N)</b>	<input type="checkbox"/> the number of patients who receive one or more defibrillatory shocks in the prehospital setting by EMS provider personnel	
<b>Numerator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patients who receive shock from any type of defib unit <input type="checkbox"/> patient who receive shock from any provider; lay or professional <input type="checkbox"/> patient's who are treated in prehospital setting	<input type="checkbox"/> EMSA#

<b>Numerator Data Source</b>	<input type="checkbox"/> EMS Medical Records	
<b>Description of Indicator Formula</b>	<input type="checkbox"/> numerator value (N) divided by denominator value (D) multiplied by 100 equals percentage (%)	
<b>Indicator Formula Numeric Expression</b>	<input type="checkbox"/> $N / D = \%$	
<b>Linkage</b>	<b>Linkage Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> name <input type="checkbox"/> dob <input type="checkbox"/> age <input type="checkbox"/> gender <input type="checkbox"/> admit date <input type="checkbox"/> procedures	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Stratification</b>	<b>Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> by age <input type="checkbox"/> by gender <input type="checkbox"/> by incident type <input type="checkbox"/> by response times <input type="checkbox"/> by scene times <input type="checkbox"/> by provider level	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Indicator Exclusion Criteria</b>	<input type="checkbox"/> non-cardiac etiologies, <input type="checkbox"/> cardiac etiologies where pulseless V-Fib/V-Tach not present <input type="checkbox"/> event was witnessed by EMS personnel <input type="checkbox"/> event not treated by EMS personnel	
<b>References</b>	<input type="checkbox"/> Utstein Model; Pitt, Penn Kass LE. One Year Survival after Prehospital Cardiac Arrest: The Utstein Model applied to Rural-Suburban EMS System. Ann of Emerg Med; 12:17-20, 1994 <input type="checkbox"/> Wisconsin study; Olson DW, MD. EMT-Defibrillation: The Wisconsin Experience;. Ann of Emerg Med, 18:8;806, 1989 <input type="checkbox"/> Seattle Washington; Weaver DW, MD. Considerations for Improving Survival from Out of Hospital Cardiac Arrest. Ann of Emerg Med 15:10;1181, 1986. <input type="checkbox"/> Ontario, Canada; Brison RJ. Cardiac Arrest in Ontario; Can Med Assoc J; 191-199, 1992	
<b>Source</b>	<input type="checkbox"/> California EMSA Vision Project	



<b>ICEMA CORE INDICATOR INDEX # CA2C</b>	<b>PULSELESS V-FIB or V-TACH - WITNESSED</b>	
<b>Measure</b>	<b>Automatic External Defibrillation (AED) <u>Performed by EMS Personnel</u></b>	
<b>CORE INDICATOR REF #CA2</b>	<b>CARDIAC - ADULT TREATMENT PROTOCOL UTILIZATION</b>	
<b>Objective</b>	<input type="checkbox"/> to measure % of patients who receive defibrillation by automatic or semi-automatic external defibrillator and performed by on-duty EMS personnel on pulseless V-Fib/Tach witnessed	
<b>Classification</b>	<input type="checkbox"/> medical care - clinical	
<b>Type of Measure</b>	<input type="checkbox"/> Process	
<b>Domain of Performance</b>	<input type="checkbox"/> Patient Care	
<b>Indicator Reporting Value</b>	<input type="checkbox"/> %	
<b>Display Format</b>	<input type="checkbox"/> List <input type="checkbox"/> Cube Chart <input type="checkbox"/> Bar Chart <input type="checkbox"/> Line Graph <input type="checkbox"/> Process Control Chart	
<b>Frequency of Display</b>	<input type="checkbox"/> Monthly x 12	
<b>Measures of Central Tendency</b>	<input type="checkbox"/> mean - Yes <input type="checkbox"/> mode - No <input type="checkbox"/> variance - No <input type="checkbox"/> standard deviation - Yes	
<b>Trending Analysis</b>	<input type="checkbox"/> NA	
<b>Minimum Data Values</b>	<input type="checkbox"/> 30 values per measure	
<b>Sampling</b>	<input type="checkbox"/> Periodic - Rate	
<b>Aggregation</b>	<input type="checkbox"/> Yes	
<b>Blinded</b>	<input type="checkbox"/> Yes	
<b>Beta Testing</b>	<input type="checkbox"/> None to Date	
<b>Population Denominator (D)</b>	<input type="checkbox"/> the number of adult patients who suffer a pulseless VF or VT event witnessed by EMS personnel	
<b>Denominator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient has reached age 15 <input type="checkbox"/> patient 14 years or younger <input type="checkbox"/> patient has suffered a VF or VT event) <input type="checkbox"/> patient was pulseless (patient VF or VT <input type="checkbox"/> event was in prehospital setting <input type="checkbox"/> patient VF & VT event was witnessed by EMS personnel <input type="checkbox"/> specified time period	<input type="checkbox"/> EMSA #36 <input type="checkbox"/> EMSA #54VTAC, 54VFIB <input type="checkbox"/> EMSA #54C-A <input type="checkbox"/> EMSA #54 <input type="checkbox"/> EMSA #52 <input type="checkbox"/> EMSA #11
<b>Denominator Data Source</b>	EMS Medical Records	

<b>Population Subset Numerator (N)</b>	<input type="checkbox"/> defibrillation by automatic or semi-automatic external defibrillator and performed by on-duty EMS personnel	
<b>Numerator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patients who survive to hospital discharge	<input type="checkbox"/> discharge status (TBD)
<b>Numerator Data Source</b>	<input type="checkbox"/> EMS Medical records <input type="checkbox"/>	
<b>Description of Indicator Formula</b>	<input type="checkbox"/> numerator value (N) divided by denominator value (D) multiplied by 100 equals percentage (%)	
<b>Indicator Formula Numeric Expression</b>	<input type="checkbox"/> $N / D = \%$	
<b>Linkage</b>	<b>Linkage Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> name <input type="checkbox"/> dob <input type="checkbox"/> age <input type="checkbox"/> gender <input type="checkbox"/> admit date <input type="checkbox"/> procedures	<input type="checkbox"/> EMSA #29 <input type="checkbox"/> EMSA #35 <input type="checkbox"/> EMSA #36 <input type="checkbox"/> EMSA #38 <input type="checkbox"/> EMSA # ? <input type="checkbox"/> EMSA #73
<b>Stratification</b>	<b>Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> by age <input type="checkbox"/> by gender <input type="checkbox"/> by incident type <input type="checkbox"/> by response times <input type="checkbox"/> by scene times <input type="checkbox"/> by provider level	<input type="checkbox"/> EMSA #36 <input type="checkbox"/> EMSA #38 <input type="checkbox"/> EMSA #8 <input type="checkbox"/> EMSA #17-20 <input type="checkbox"/> EMSA #8 <input type="checkbox"/> EMSA #73
<b>Indicator Exclusion Criteria</b>	<input type="checkbox"/> non-cardiac etiologies, <input type="checkbox"/> cardiac etiologies where resuscitation was not attempted by EMS personnel <input type="checkbox"/> use of manual defibrillator <input type="checkbox"/> defib performed by lay public or on-duty medical professional <input type="checkbox"/> event not witnessed by EMS personnel <input type="checkbox"/> patient has not survived to hospital emergency department	
<b>References</b>	<input type="checkbox"/> Utstein Model; Pitt, Penn Kass LE. One Year Survival after Prehospital Cardiac Arrest: The Utstein Model applied to Rural-Suburban EMS System. Ann of Emerg Med; 12:17-20, 1994 <input type="checkbox"/> Wisconsin study; Olson DW, MD. EMT-Defibrillation: The Wisconsin Experience;. Ann of Emerg Med, 18:8;806. 1989 <input type="checkbox"/> Seattle Washington; Weaver DW, MD. Considerations for Improving Survival from Out of Hospital Cardiac Arrest. Ann of Emerg Med 15:10;1181, 1986. <input type="checkbox"/> Ontario, Canada; Brison RJ. Cardiac Arrest in Ontario; Can Med Assoc J; 191-199, 1992	
<b>Source</b>	<input type="checkbox"/> California EMSA Vision Project	



<b>ICEMA CORE INDICATOR</b> <b>Index # CA2E</b>	<b>PULSELESS V-FIB/TACH WITNESSED</b>	
<b>Measure</b>	<b>Prehospital Defibrillation: Frequency of Administration</b>	
<b>CORE INDICATOR REF #CA2</b>	<b>CARDIAC - ADULT TREATMENT PROTOCOL UTILIZATION</b>	
<b>Objective</b>	<input type="checkbox"/> to measure % of patients suffering a pulseless ventricular fibrillation (VF) or ventricular tachycardia (VT) event, which is, witnessed who receive one or more defibrillatory shocks in pre-hospital setting.	
<b>Classification</b>	<input type="checkbox"/> Medical care - clinical	
<b>Type of Measure</b>	<input type="checkbox"/> Process	
<b>Domain of Performance</b>	<input type="checkbox"/> Frequency, Compliance	
<b>Indicator Reporting Value</b>	<input type="checkbox"/> %	
<b>Display Format</b>	<input type="checkbox"/> List Chart <input type="checkbox"/> Cube Chart <input type="checkbox"/> Bar Chart <input type="checkbox"/> Line Graph <input type="checkbox"/> Process Control Chart	
<b>Frequency of Display</b>	<input type="checkbox"/> Monthly x 12	
<b>Measures of Central Tendency</b>	<input type="checkbox"/> mean - Yes <input type="checkbox"/> mode - No <input type="checkbox"/> variance - No <input type="checkbox"/> standard deviation - No	
<b>Trending Analysis</b>	<input type="checkbox"/> NA	
<b>Minimum Data Values</b>	<input type="checkbox"/> 30 values per measure	
<b>Sampling</b>	<input type="checkbox"/> Periodic - Rate	
<b>Aggregation</b>	<input type="checkbox"/> Yes	
<b>Blinded</b>	<input type="checkbox"/> Yes	
<b>Beta Testing</b>	<input type="checkbox"/> None to Date	
<b>Population Denominator (D)</b>	<input type="checkbox"/> the number of adult patients treated by EMS personnel for pulseless V-Fib/Tach witnessed	
<b>Denominator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient has reached age 15 <input type="checkbox"/> patient 14 years or younger <input type="checkbox"/> patient treated by EMS personnel for pulseless V-Fib/Tach. <input type="checkbox"/> Event is witnessed by EMS personnel <input type="checkbox"/> event was in prehospital setting <input type="checkbox"/> specified query time period	<input type="checkbox"/> EMSA #  <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #  <input type="checkbox"/> EMSA #  <input type="checkbox"/> EMSA #

<b>Denominator Data Source</b>	EMS Medical Records	
<b>Population Subset Numerator (N)</b>	<input type="checkbox"/> the number of patients who receive one or more defibrillatory shocks in the Prehospital setting	
<b>Numerator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patients who receive shock from any type of defib unit <input type="checkbox"/> patient who receive shock from any provider; lay or professional <input type="checkbox"/> patient's who are treated in prehospital setting	<input type="checkbox"/> EMSA#
<b>Numerator Data Source</b>	<input type="checkbox"/> EMS Medical Records	
<b>Description of Indicator Formula</b>	<input type="checkbox"/> numerator value (N) divided by denominator value (D) multiplied by 100 equals percentage (%)	
<b>Indicator Formula Numeric Expression</b>	<input type="checkbox"/> $N / D = \%$	
<b>Linkage</b>	<b>Linkage Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> name <input type="checkbox"/> dob <input type="checkbox"/> age <input type="checkbox"/> gender <input type="checkbox"/> admit date <input type="checkbox"/> procedures	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Stratification</b>	<b>Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> by age <input type="checkbox"/> by gender <input type="checkbox"/> by incident type <input type="checkbox"/> by response times <input type="checkbox"/> by scene times <input type="checkbox"/> by provider level	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Indicator Exclusion Criteria</b>	<input type="checkbox"/> non-cardiac etiologies, <input type="checkbox"/> cardiac etiologies where pulseless V-Fib/V-Tach not present <input type="checkbox"/> event was not witnessed by EMS personnel <input type="checkbox"/> event not treated by EMS personnel	
<b>References</b>	<input type="checkbox"/> Utstein Model; Pitt, Penn Kass LE. One Year Survival after Prehospital Cardiac Arrest: The Utstein Model applied to Rural-Suburban EMS System. Ann of Emerg Med; 12:17-20, 1994 <input type="checkbox"/> Wisconsin study; Olson DW, MD. EMT-Defibrillation: The Wisconsin Experience;. Ann of Emerg Med, 18:8;806. 1989 <input type="checkbox"/> Seattle Washington; Weaver DW, MD. Considerations for Improving Survival from Out of Hospital Cardiac Arrest. Ann of Emerg Med 15:10;1181, 1986. <input type="checkbox"/> Ontario, Canada; Brison RJ. Cardiac Arrest in Ontario; Can Med Assoc J; 191-199, 1992	
<b>Source</b>	<input type="checkbox"/> California EMSA Vision Project	

<b>ICEMA CORE INDICATOR</b> <b>Index # CA2H</b>	<b><u>PULSELESS V-FIB/TACH WITNESSED</u></b>	
<b>Measure</b>	<b><u>Epinephrine: Frequency of Administration</u></b>	
<b>CORE INDICATOR REF #CA1</b>	<b>CARDIAC - ADULT TREATMENT PROTOCOL UTILIZATION</b>	
<b>Objective</b>	<input type="checkbox"/> to measure % of patients suffering from pulseless V-Fib/Tach-witnessed who receive epinephrine in pre-hospital setting.	
<b>Classification</b>	<input type="checkbox"/> Medical care - clinical	
<b>Type of Measure</b>	<input type="checkbox"/> Process	
<b>Domain of Performance</b>	<input type="checkbox"/> Frequency, Compliance	
<b>Indicator Reporting Value</b>	<input type="checkbox"/> %	
<b>Display Format</b>	<input type="checkbox"/> List Chart <input type="checkbox"/> Cube Chart <input type="checkbox"/> Bar Chart <input type="checkbox"/> Line Graph <input type="checkbox"/> Process Control Chart	
<b>Frequency of Display</b>	<input type="checkbox"/> Monthly x 12	
<b>Measures of Central Tendency</b>	<input type="checkbox"/> mean - Yes <input type="checkbox"/> mode - No <input type="checkbox"/> variance - No <input type="checkbox"/> standard deviation - No	
<b>Trending Analysis</b>	<input type="checkbox"/> NA	
<b>Minimum Data Values</b>	<input type="checkbox"/> 30 values per measure	
<b>Sampling</b>	<input type="checkbox"/> Periodic - Rate	
<b>Aggregation</b>	<input type="checkbox"/> Yes	
<b>Blinded</b>	<input type="checkbox"/> Yes	
<b>Beta Testing</b>	<input type="checkbox"/> None to Date	
<b>Population Denominator (D)</b>	<input type="checkbox"/> the number of adult patients who suffer a pulseless V-Fib/Tach event - witnessed in Prehospital setting	
<b>Denominator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient has reached age 15 <input type="checkbox"/> patient treated by EMS personnel for pulseless V-Fib/Tach. <input type="checkbox"/> event was witnessed by EMS personnel in prehospital setting <input type="checkbox"/> specified query time period	<input type="checkbox"/> EMSA #  <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Denominator Data Source</b>	<input type="checkbox"/> EMS Medical Records	

<b>Population Subset Numerator (N)</b>	<input type="checkbox"/> the number of patients who receive epinephrine	
<b>Numerator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient's who are treated in prehospital setting <input type="checkbox"/> patients who receive one or more doses of epinephrine <input type="checkbox"/> subset of denominator	<input type="checkbox"/> EMSA#
<b>Numerator Data Source</b>	<input type="checkbox"/> EMS Medical Records	
<b>Description of Indicator Formula</b>	<input type="checkbox"/> numerator value (N) divided by denominator value (D) multiplied by 100 equals percentage (%)	
<b>Indicator Formula Numeric Expression</b>	<input type="checkbox"/> $N / D = \%$	
<b>Linkage</b>	<b>Linkage Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> name <input type="checkbox"/> dob <input type="checkbox"/> age <input type="checkbox"/> gender <input type="checkbox"/> admit date <input type="checkbox"/> procedures	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Stratification</b>	<b>Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> by age <input type="checkbox"/> by gender <input type="checkbox"/> by incident type <input type="checkbox"/> by response times <input type="checkbox"/> by scene times <input type="checkbox"/> by provider level	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Indicator Exclusion Criteria</b>	<input type="checkbox"/> non-cardiac etiologies, <input type="checkbox"/> cardiac etiologies where patient not resuscitated by EMS personnel <input type="checkbox"/> event not witnessed by EMS personnel <input type="checkbox"/> event not treated by EMS personnel	
<b>References</b>	<input type="checkbox"/> Utstein Model; Pitt, Penn Kass LE. One Year Survival after Prehospital Cardiac Arrest: The Utstein Model applied to Rural-Suburban EMS System. Ann of Emerg Med; 12:17-20, 1994 <input type="checkbox"/> Wisconsin study; Olson DW, MD. EMT-Defibrillation: The Wisconsin Experience;. Ann of Emerg Med, 18:8;806. 1989 <input type="checkbox"/> Seattle Washington; Weaver DW, MD. Considerations for Improving Survival from Out of Hospital Cardiac Arrest. Ann of Emerg Med 15:10;1181, 1986. <input type="checkbox"/> Ontario, Canada; Brison RJ. Cardiac Arrest in Ontario; Can Med Assoc J; 191-199, 1992	
<b>Source</b>	<input type="checkbox"/> California EMSA Vision Project	



<b>ICEMA CORE INDICATOR</b> <b>Index # CA2J</b>	<b>PULSELESS V-FIB/TACH UNWITNESSED</b>	
<b>Measure</b>	<b>Lidocaine: Frequency of Administration</b>	
<b>CORE INDICATOR REF #CA1</b>	<b>CARDIAC - ADULT TREATMENT PROTOCOL UTILIZATION</b>	
<b>Objective</b>	<input type="checkbox"/> to measure % of patients suffering from pulseless V-Fib/Tach – witnessed who receive Lidocaine in pre-hospital setting.	
<b>Classification</b>	<input type="checkbox"/> Medical care - clinical	
<b>Type of Measure</b>	<input type="checkbox"/> Process	
<b>Domain of Performance</b>	<input type="checkbox"/> Frequency, Compliance	
<b>Indicator Reporting Value</b>	<input type="checkbox"/> %	
<b>Display Format</b>	<input type="checkbox"/> List Chart <input type="checkbox"/> Cube Chart <input type="checkbox"/> Bar Chart <input type="checkbox"/> Line Graph <input type="checkbox"/> Process Control Chart	
<b>Frequency of Display</b>	<input type="checkbox"/> Monthly x 12	
<b>Measures of Central Tendency</b>	<input type="checkbox"/> mean - Yes <input type="checkbox"/> mode - No <input type="checkbox"/> variance - No <input type="checkbox"/> standard deviation - No	
<b>Trending Analysis</b>	<input type="checkbox"/> NA	
<b>Minimum Data Values</b>	<input type="checkbox"/> 30 values per measure	
<b>Sampling</b>	<input type="checkbox"/> Periodic - Rate	
<b>Aggregation</b>	<input type="checkbox"/> Yes	
<b>Blinded</b>	<input type="checkbox"/> Yes	
<b>Beta Testing</b>	<input type="checkbox"/> None to Date	
<b>Population Denominator (D)</b>	<input type="checkbox"/> the number of adult patients treated by EMS personnel for pulseless V-Fib/Tach - witnessed.	
<b>Denominator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient has reached age 15 <input type="checkbox"/> patient treated by EMS personnel for pulseless V-Fib/Tach -witnessed <input type="checkbox"/> event was in prehospital setting <input type="checkbox"/> specified query time period	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Denominator Data Source</b>	<input type="checkbox"/> EMS Medical Records	
<b>Population Subset Numerator (N)</b>	<input type="checkbox"/> the number of patients who receive Lidocaine in the Prehospital setting	
<b>Numerator</b>	<b>Inclusion Criteria</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> patient's who are treated in prehospital setting <input type="checkbox"/> patients who receive one or more doses of Lidocaine <input type="checkbox"/> Subset of denominator <input type="checkbox"/> time period for query match denominator	<input type="checkbox"/> EMSA#



<b>Numerator Data Source</b>	<input type="checkbox"/> EMS Medical Records	
<b>Description of Indicator Formula</b>	<input type="checkbox"/> numerator value (N) divided by denominator value (D) multiplied by 100 equals percentage (%)	
<b>Indicator Formula Numeric Expression</b>	<input type="checkbox"/> $N / D = \%$	
<b>Linkage</b>	<b>Linkage Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> name <input type="checkbox"/> dob <input type="checkbox"/> age <input type="checkbox"/> gender <input type="checkbox"/> admit date <input type="checkbox"/> procedures	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Stratification</b>	<b>Options</b>	<b>EMSA Data Elements</b>
	<input type="checkbox"/> by age <input type="checkbox"/> by gender <input type="checkbox"/> by incident type <input type="checkbox"/> by response times <input type="checkbox"/> by scene times <input type="checkbox"/> by provider level	<input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA # <input type="checkbox"/> EMSA #
<b>Indicator Exclusion Criteria</b>	<input type="checkbox"/> non-cardiac etiologies, <input type="checkbox"/> event not witnessed by EMS personnel <input type="checkbox"/> event not treated by EMS personnel	
<b>References</b>	<input type="checkbox"/> Utstein Model; Pitt, Penn Kass LE. One Year Survival after Prehospital Cardiac Arrest: The Utstein Model applied to Rural-Suburban EMS System. Ann of Emerg Med; 12:17-20, 1994 <input type="checkbox"/> Wisconsin study; Olson DW, MD. EMT-Defibrillation: The Wisconsin Experience;. Ann of Emerg Med, 18:8;806. 1989 <input type="checkbox"/> Seattle Washington; Weaver DW, MD. Considerations for Improving Survival from Out of Hospital Cardiac Arrest. Ann of Emerg Med 15:10;1181, 1986. <input type="checkbox"/> Ontario, Canada; Brison RJ. Cardiac Arrest in Ontario; Can Med Assoc J; 191-199, 1992	
<b>Source</b>	<input type="checkbox"/> California EMSA Vision Project	